

Supplemental Table 1. Proteins present in BioCartilage listed in decreasing order of abundance.

| Number | Protein | ID |
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| 1. | Cartilage oligomeric matrix protein | P49747.2 |
| 2. | Fibronectin | P02751.4 |
| 3. | Aggrecan core protein | P16112.2 |
| 4. | Cartilage intermediate layer protein | O75339.4 |
| 5. | Collagen VI | P12111.5 |
| 6. | Prolargin | P51888.1 |
| 7. | Phospholipase A | P14555.2 |
| 8. | Clusterin | P10909.1 |
| 9. | Fibromodulin | Q06828.2 |
| 10. | Hyaluronan and proteoglycan link protein | P10915.2 |
| 11. | Thrombospondin | P35442.2 |
| 12. | Chondroadherin | O15335.2 |
| 13. | Decorin | P07585.1 |
| 14. | Biglycan | P21810.2 |
| 15. | Matrilin | O15232.2 |
| 16. | Fibroblast growth factor-binding protein | Q9BYJ0.1 |
| 17. | Lactadherin | Q08431.2 |
| 18. | Extracellular superoxide dismutase | P08294.2 |
| 19. | Lysozyme C | P12109.3 |
| 20. | Neurofilament medium polypeptide | P07197.3 |
| 21. | Tenascin | P24821.3 |
| 22. | Heparan sulfate proteoglycan | P98160.4 |
| 23. | Actin | P63261.1 |
| 24. | Ferritin light chain | P02792.2 |
| 25. | Lumican | P51884.2 |
| 26. | Collagen XII | Q99715.2 |
| 27. | Inter-alpha-trypsin inhibitor | Q6UXX5.1 |
| 28. | Mimecan | P20774.1 |
| 29. | Proteoglycan 4 | Q92954.2 |
| 30. | Serine protease HTRA1 | Q92743.1 |
| 31. | Pyruvate kinase PKLR | P30613.2 |
| 32. | Glyceraldehyde-3-phosphate dehydrogenase | P04406.3 |
| 33. | Sushi repeat | O60687.1 |
| 34. | Angiogenin | P03950.1 |
| 35. | Annexin | P08758.2 |
| 36. | Histone H2B | O60814.3 |
| 37. | Procollagen C-endopeptidase enhancer | Q9UKZ9.1 |
| 38. | Coagulation factor XIII | P00488.4 |
| 39. | Solute carrier organic anion transporter family membrane | Q96BD0.2 |
| 40. | L-lactate dehydrogenase | P00338.2 |
| 41. | Angiopietin-related protein | O95841.1 |
| 42. | Target of Nesh | Q7Z7G0.1 |

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| 43. | Collagen II | P02458.3 |
| 44. | Leukocyte cell-derived chemotaxin | O75829.1 |
| 45. | Alpha-enolase | P06733.2 |
| 46. | Alpha-2-macroglobulin | P01023.3 |
| 47. | Apolipoprotein | P05090.1 |
| 48. | Ferritin heavy chain | P02794.2 |
| 49. | Phosphoglycerate kinase 2 | P07205.3 |
| 50. | Vitronectin | P04004.1 |
| 51. | Thrombospondin | P35443.2 |
| 52. | Glucose-6-phosphate isomerase | P06744.4 |
| 53. | Ezrin | P15311.4 |
| 54. | Four and a half LIM domains protein | Q13642.4 |
| 55. | Arf-GAP | Q9ULH1.4 |
| 56. | Elongation factor 1-alpha | Q05639.1 |
| 57. | EH domain-containing protein | Q9NZN4.2 |
| 58. | Hemoglobin | P02100.2 |
| 59. | Transforming growth factor-beta-induced protein ig-h3 | Q15582.1 |
| 60. | 14-3-3 protein sigma | P31947.1 |
| 61. | Complement C1q | P02746.3 |
| 62. | C-type lectin | Q9Y240.1 |
| 63. | Neutral alpha-glucosidase | Q14697.3 |
| 64. | Fructose-bisphosphate aldolase | P04075.2 |
| 65. | Keratin | P04264.6 |
| 66. | Chondroitin sulfate proteoglycan 4 | Q6UVK1.2 |
| 67. | Vitrin | Q6UXI7.1 |
| 68. | Tumor necrosis factor receptor | O00300.3 |
| 69. | Complement C9 | P02748.2 |
| 70. | Asporin | Q9BXN1.2 |
| 71. | Peroxiredoxin | Q06830.1 |
| 72. | Gelsolin | P06396.1 |
| 73. | Collagen X | Q03692.2 |
| 74. | Serum amyloid P | P02743.2 |
| 75. | Immunoglobulin heavy constant gamma | P01857.1 |
| 76. | Glia-derived nexin | P07093.1 |
| 77. | Growth/differentiation factor 10 | P55107.1 |
| 78. | Glycogen phosphorylase | P06737.4 |
| 79. | Complement C3 | P01024.2 |
| 80. | Prolow-density lipoprotein receptor-related protein | Q07954.2 |
| 81. | Basigin | P35613.2 |
| 82. | Alpha-1-antitrypsin | P01009.3 |
| 83. | Immunoglobulin kappa constant | P01834.1 |
| 84. | Endoplasmin | P14625.1 |
| 85. | Adhesion G-protein coupled receptor G2 | Q8IZP9.2 |
| 86. | Carbohydrate sulfotransferase | Q9GZS9.3 |

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| 87. | Matrix Gla protein | P08493.2 |
| 88. | Fibulin | P23142.4 |
| 89. | Ribonuclease pancreatic | P07998.4 |
| 90. | Versican core protein | P13611.3 |
| 91. | Clathrin | Q00610.5 |
| 92. | Calmodulin | P62158.2 |
| 93. | Superoxide dismutase | P00441.2 |
| 94. | Histone H4 | P62805.2 |
| 95. | Peptidyl-prolyl cis-trans isomerase | P62937.2 |
| 96. | Antileukoproteinase | P03973.2 |
| 97. | Integrin beta-5 | P18084.1 |
| 98. | Transketolase | P29401.3 |
| 99. | Guanine nucleotide-binding protein | Q5JWF2.2 |
| 100. | 1,4-alpha-glucan-branching enzyme | Q04446.3 |
| 101. | Myoglobin | P02144.2 |
| 102. | Carbonic anhydrase 3 | P07451.3 |
| 103. | Collagen XV | P39059.2 |
| 104. | Ras GTPase-activating-like protein IQGAP1 | P46940.1 |
| 105. | Retinoic acid receptor responder protein 2 | Q99969.1 |
| 106. | Pigment epithelium-derived factor | P36955.4 |
| 107. | Ribonuclease 4 | P34096.3 |
| 108. | Melanoma-derived growth regulatory protein | Q16674.1 |
| 109. | Programmed cell death protein | O75340.1 |
| 110. | Stromal cell-derived factor 1 | P48061.1 |
| 111. | Gremlin-1 | O60565.1 |
| 112. | Glutathione peroxidase | P22352.2 |
| 113. | Lymphocyte activation gene 3 protein | P18627.5 |
| 114. | Heat shock protein 7 | P48741.2 |
| 115. | POTE ankyrin domain family member J | P0CG39.1 |
| 116. | Plasma serine protease inhibitor | P05154.3 |
| 117. | Adenylate kinase isoenzyme | P00568.3 |
| 118. | 14-3-3 protein epsilon | P62258.1 |
| 119. | Extracellular matrix protein 2 | O94769.1 |
| 120. | ATP synthase | P06576.3 |
| 121. | Cytoskeleton-associated protein 4 | Q07065.2 |
| 122. | Histone H2A | P04908.2 |
| 123. | 40S ribosomal protein S20 | P60866.1 |
| 124. | EGF-like repeat and discoidin I-like domain-containing protein 3 | O43854.1 |
| 125. | 78 kDa glucose-regulated protein | P11021.2 |
| 126. | Prelamin | P02545.1 |
| 127. | Ubiquitin-like modifier-activating enzyme | P22314.3 |
| 128. | Carboxypeptidase Q | Q9Y646.1 |
| 129. | Transmembrane emp24 domain-containing protein | P49755.2 |
| 130. | Dolichyl-diphosphooligosaccharide--protein glycosyltransferase | P04843.1 |

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| 131. | Glutathione S-transferase | P09211.2 |
| 132. | Collagen XI | P13942.5 |
| 133. | UTP-glucose-1-phosphate uridylyltransferase | Q16851.5 |
| 134. | ATP-dependent 6-phosphofructokinase | P17858.6 |
| 135. | EMILIN-1 | Q9Y6C2.2 |
| 136. | Cytokine-like protein 1 | Q9NRR1.1 |
| 137. | Galectin | P09382.2 |
| 138. | SPARC-related modular calcium-binding protein 2 | Q9H3U7.2 |
| 139. | Triosephosphate isomerase | P60174.3 |
| 140. | Peroxiredoxin-6 | P30041.3 |
| 141. | Sulfhydryl oxidase 1 | O00391.3 |
| 142. | ADAMTS- 4 | Q6UY14.2 |
| 143. | Tubulin beta-3 chain | Q13509.2 |
| 144. | Chondroadherin-like protein | Q6NUI6.2 |
| 145. | Eukaryotic initiation factor 4A-III | P38919.4 |
| 146. | Heat shock protein 2 | P54652.1 |
| 147. | F-box only protein 2 | Q9UK22.2 |
| 148. | Leucine-rich repeat and IQ domain-containing protein 1 | Q96JM4.3 |
| 149. | Anosmin-1 | P23352.3 |
| 150. | Rho GTPase-activating protein 40 | Q5TG30.3 |
| 151. | Metalloproteinase inhibitor 3 | P35625.2 |
| 152. | Peroxiredoxin-2 | P32119.5 |
| 153. | Peptidyl-prolyl cis-trans isomerase C | P45877.1 |
| 154. | 60S ribosomal protein L10a | P62906.2 |
| 155. | Mitogen-activated protein kinase 6 | Q16659.1 |
| 156. | Coiled-coil domain-containing protein 30 | Q5VVM6.1 |
| 157. | Transthyretin | P02766.1 |
| 158. | Complement C4-B | P0C0L4.2 |
| 159. | Homeobox protein notochord | A8MTQ0.2 |
| 160. | Semaphorin-3D | O95025.2 |
| 161. | Transaldolase | P37837.2 |
| 162. | Protein-glutamine gamma-glutamyltransferase 2 | P21980.2 |
| 163. | Coiled-coil domain-containing protein 80 | Q76M96.1 |
| 164. | Semaphorin-3A | Q14563.1 |
| 165. | Phosphoribosyl pyrophosphate synthase-associated protein 2 | O60256.1 |
| 166. | Phosphoacetylglucosamine mutase | O95460.3 |
| 167. | Melanotransferrin | P08582.2 |
| 168. | Isocitrate dehydrogenase [NADP], mitochondrial | P48735.2 |
| 169. | ADAMTS-3 | P82987.4 |
| 170. | Carbonyl reductase [NADPH] 1 | P16152.3 |
| 171. | EMILIN-3 | Q9NT22.2 |
| 172. | Dolichyl-diphosphooligosaccharide | P04844.3 |
| 173. | SH3 domain-binding glutamic acid-rich-like protein | Q9H299.1 |
| 174. | Tubulin alpha-3C/D chain | Q13748.3 |

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| 175. | Mitochondrial ornithine transporter 2 | Q9BXI2.3 |
| 176. | Forkhead box protein C1 | Q12948.3 |
| 177. | Platelet-derived growth factor | Q9NRA1.2 |
| 178. | 3-hydroxybutyrate dehydrogenase type 2 | Q9BUT1.2 |
| 179. | Ceruloplasmin | P00450.1 |
| 180. | COP9 signalosome complex subunit 3 | Q9UNS2.3 |
| 181. | Protein S100 | P31949.2 |
| 182. | Peptidyl-prolyl cis-trans isomerase B | P23284.2 |
| 183. | PH and SEC7 domain-containing protein 3 | Q9NYI0.2 |
| 184. | Laminin | P55268.2 |
| 185. | Zinc finger protein 311 | Q5JNZ3.2 |
| 186. | Phosphoglucomutase-1 | P36871.3 |
| 187. | Protein disulfide-isomerase | P07237.3 |
| 188. | ATP-sensitive inward rectifier potassium channel 1 | P48048.1 |
| 189. | Multifunctional protein ADE2 | P22234.3 |
| 190. | Fibrillin | P35555.3 |
| 191. | Translocon-associated protein subunit delta | P51571.1 |
| 192. | Cell division control protein 42 homolog | P60953.2 |
| 193. | Fascin | Q16658.3 |
| 194. | Importin | Q14974.2 |
| 195. | Prothrombin | P00734.2 |
| 196. | Myeloid cell nuclear differentiation antigen | P41218.1 |
| 197. | Hexokinase-1 | P19367.3 |
| 198. | Myosin | P35579.4 |
| 199. | CD109 antigen | Q6YHK3.2 |
| 200. | Spliceosome RNA helicase DDX39B | Q13838.1 |
| 201. | Semaphorin-3E | O15041.1 |
| 202. | Beta-hexosaminidase subunit beta | P07686.3 |
| 203. | Peroxiredoxin-5, mitochondrial | P30044.4 |
| 204. | Ras-related protein Ral-A | P11233.1 |
| 205. | Hyaluronan mediated motility receptor | O75330.2 |
| 206. | Histidine-rich glycoprotein | P04196.1 |
| 207. | Ubiquitin carboxyl-terminal hydrolase | Q9H0E7.2 |
| 208. | ATP-binding cassette | Q99758.2 |
| 209. | Glycogen debranching enzyme | P35573.3 |
| 210. | Collagen I | P08123.7 |
| 211. | Glutamine--fructose-6-phosphate aminotransferase | Q06210.3 |
| 212. | Pyruvate dehydrogenase kinase isozyme | Q15118.1 |
| 213. | Protein sidekick | Q58EX2.3 |
| 214. | Mitochondrial fission factor | Q9GZY8.1 |